

Public Health Services produce the fluTAS Report to provide information about the level of influenza (flu) in Tasmania. Multiple surveillance data sources are used to obtain measures of influenza activity in the community.

This surveillance report describes influenza activity in Tasmania during the period 1 January to 31 August 2019.

August 2019 Update

- Community syndromic surveillance in Tasmanian suggested influenza-like illness activity that was stable during August 2019 and decreased compared to during July.
- Laboratory-confirmed influenza notifications peaked at 180 cases during the third week of August (week 33). Notifications during August were similar for this time of year compared to previous years.
- Influenza testing increased by 5 per cent during August compared to during July. Testing since the start of 2019 has been 2.5 times the amount of testing conducted during the same period of 2018.
- The proportion of tests positive for influenza peaked during the third week of August.
- Two hundred and fifteen patients have been admitted to the Royal Hobart Hospital with influenza between 1 April and 30 August 2019.
- Influenza activity across Australia during August 2019 was reported to be lower than the average of previous years, following an apparent peak in activity in early July. Clinical severity for the season to date across Australia, as measured through the proportion of patients admitted directly to intensive care, and deaths attributed to influenza, is low.

Influenza activity

The influenza season is different almost every year. This is related to many factors including the influenza strains and subtypes that are circulating, the population groups most affected, the susceptibility of the population, and changes that may occur to the viruses during the year. Our surveillance systems at a state and national level help us to understand influenza activity and severity.

Influenza-like illness

FluTracking (Community Syndromic Surveillance)

FluTracking is a national, weekly online survey that asks participants to report whether they have had fever and/or cough in the preceding week. It is a joint initiative of the University of Newcastle, Hunter New England Population Health and the Hunter Medical Research Institute. *FluTracking* information is available at www.flutracking.net and on Facebook www.facebook.com/Flutracking

FluTracking recommenced on Monday 8 April 2019, three weeks earlier than usual due to increased influenza activity across Australia. An average of 3 790 Tasmanians are participating each week, an increase on 2018 participation (3 150 Tasmanians per week).

Reports of influenza-like illness (fever plus cough) in Tasmanian participants peaked at 1.8 per cent during the third week of August (week 33) before declining to 1.5 per cent at the end of the month (Figure 1).

Seventy-five per cent of participants with fever and cough during August also reported absenteeism from normal duties. This reported absenteeism was higher than July (67 per cent).

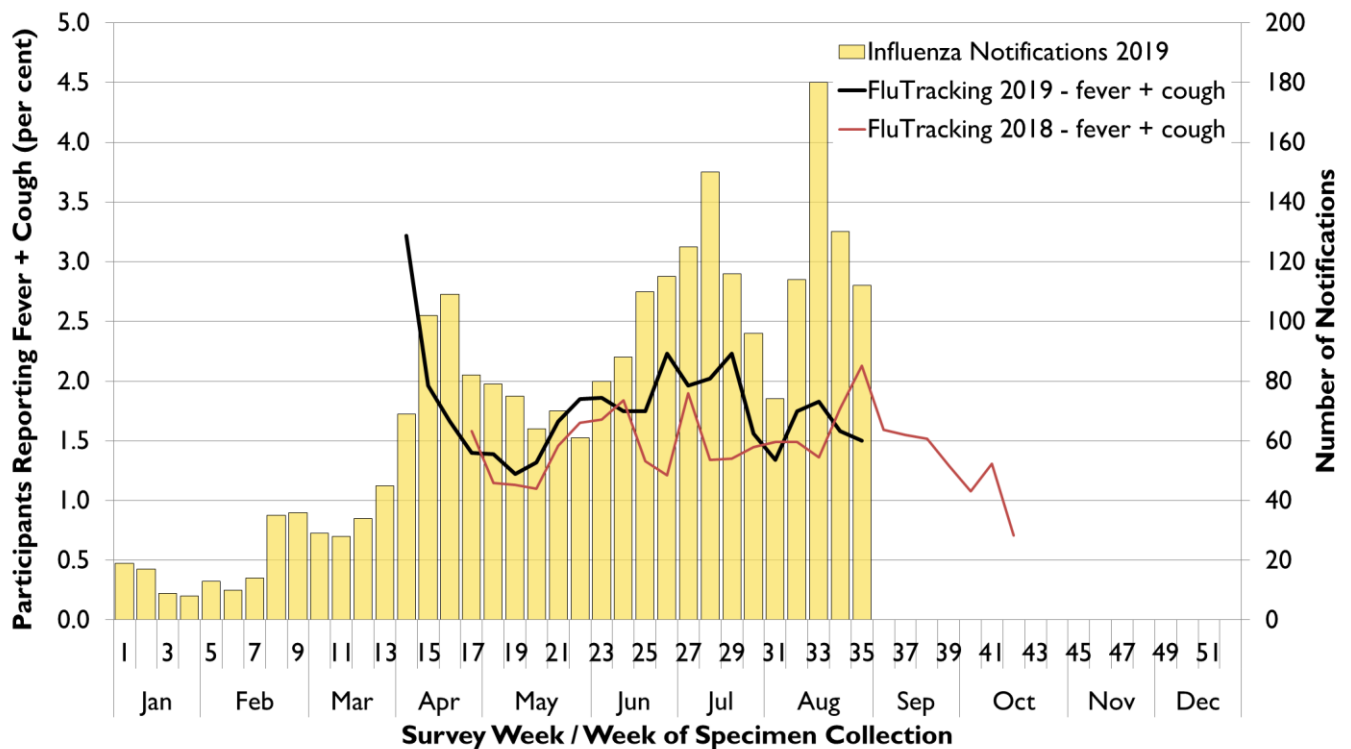


Figure 1: Percentage of Tasmanian *FluTracking* participants reporting fever and cough, week ending Sunday 1 September 2019.

ASPREN (General Practice Syndromic Surveillance)

The Australian Sentinel Practices Research Network (ASPREN) includes registered sentinel General Practices (GPs) across Australia who report fortnightly on the number of patients presenting with influenza-like illness (ILI). Five GPs participate in Tasmania. ASPREN is a joint initiative of the Royal Australian College of General Practitioners and the University of Adelaide. Further information is available at aspren.dmac.adelaide.edu.au

For the fortnight ending Sunday 11 August 2019, ASPREN reported that in Tasmania, the average level of ILI activity was less-than 25 out of 1 000 consultations. This was categorised by ASPREN as ‘normal’ activity (1-5 out of 1000 consultations is categorised as “baseline”, 25 – 39 out of 1000 consultations is categorised as “high activity”).

Notifications of laboratory-confirmed Influenza to Public Health Services

Influenza notifications are based on positive laboratory tests. Many people with influenza-like illness choose not to attend medical care, or are not tested when they attend for a variety of reasons. Notifications represent a small proportion of the total influenza cases in the community.

There were 560 cases of influenza notified in Tasmania during August 2019. Between 2015 and 2018 an average of 478 cases of influenza were notified during the month of August.

Since 1 January 2019 a total of 2 491 cases of influenza have been notified.

During August weekly influenza case numbers increased to a peak of 180 cases before decreasing to 112 cases (Figure 2).

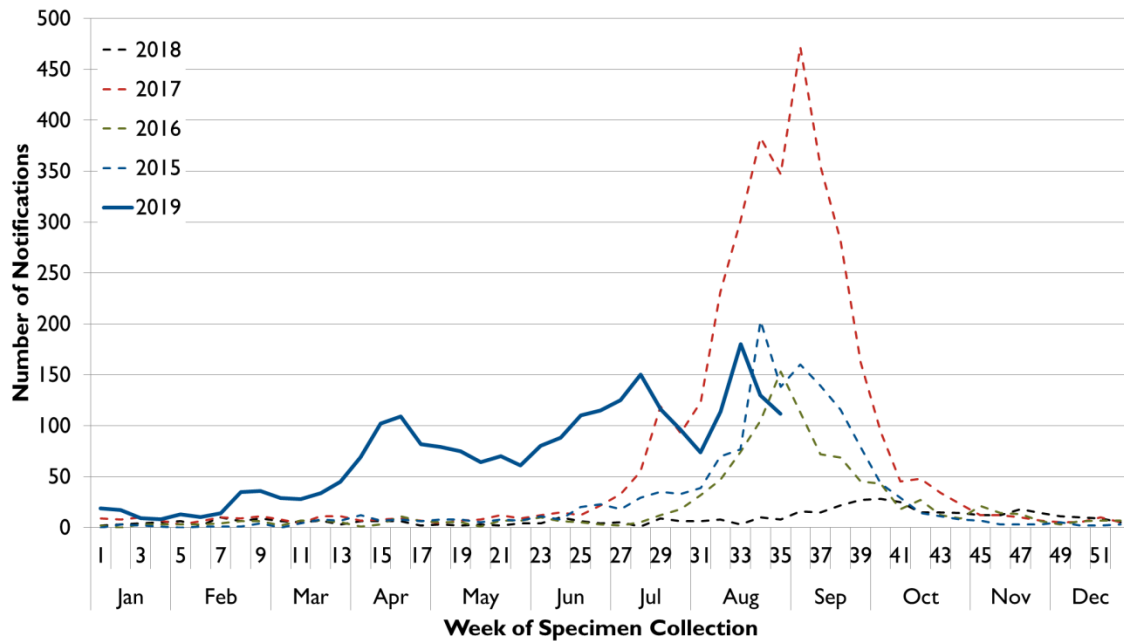


Figure 2: Notifications of influenza in Tasmania, by week, 1 January 2015 to Sunday 1 September 2019 (week 35).

Influenza testing

Five per cent more influenza tests were conducted in Tasmania during August 2019 than during July: 2 220 tests compared to 2120 tests during July. The highest number of influenza tests occurred during the third week of August (587 tests, Figure 3).

Since the start of 2019 influenza testing conducted by Tasmanian laboratories has been significantly greater than previous years. Between 1 January and 31 August 2019 a total of 11 374 influenza PCR tests were reported by laboratories: 2.5 times the testing conducted during the same period of 2018 (4 538 tests).

Proportion of tests positive for influenza

The weekly proportion of tests positive for influenza peaked during the third week of August (28 per cent) before declining to 21 per cent at the end of the month (Figure 3).

During 2014 to 2018, on average, 25 per cent of weekly influenza tests were positive during August (range one to 49 per cent positive).

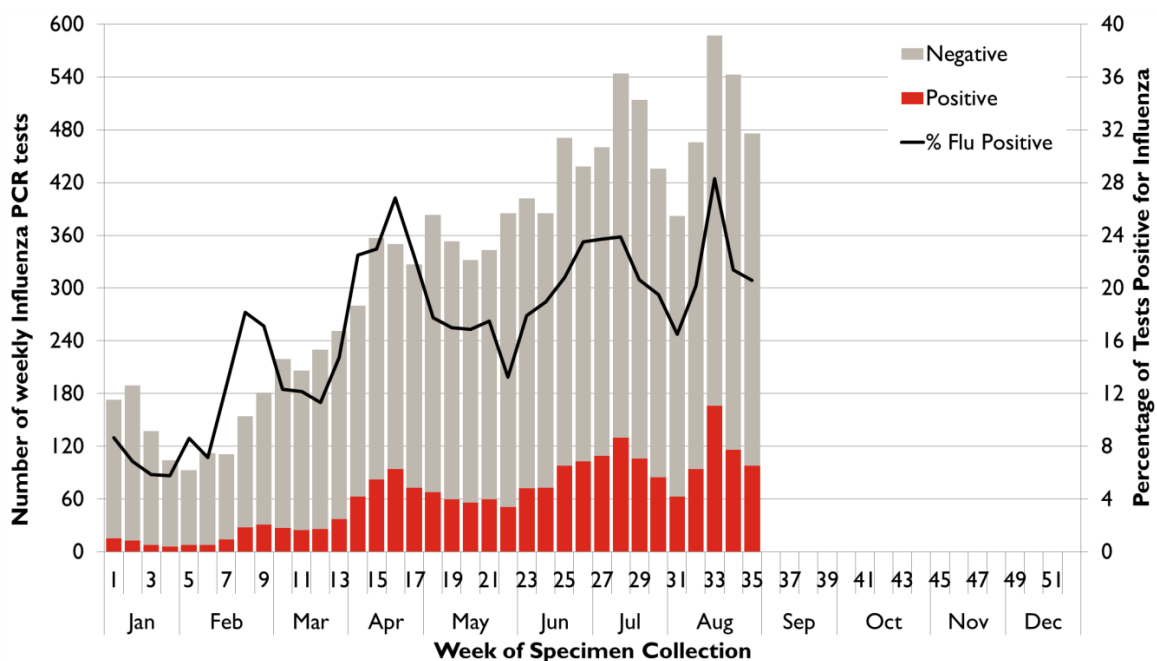


Figure 3: Statewide Influenza PCR testing, 1 January to Sunday 1 September 2019 (week 35).

Other circulating respiratory illness

Many viruses cause the ‘common cold’ and ‘influenza-like illnesses’. The Royal Hobart Hospital (RHH) laboratory performs a PCR test that detects influenza A and B viruses, as well as seven other respiratory pathogens commonly associated with respiratory illness. Most individuals tested were from emergency department presentations and hospitalised patients to the RHH.

The amount of testing for respiratory pathogens performed by the RHH during August was two per cent lower than testing performed during June.

The most commonly detected respiratory pathogens during August 2019 were Influenza A virus (30 per cent), Rhinovirus (23 per cent) and Parainfluenza viruses (16 per cent).

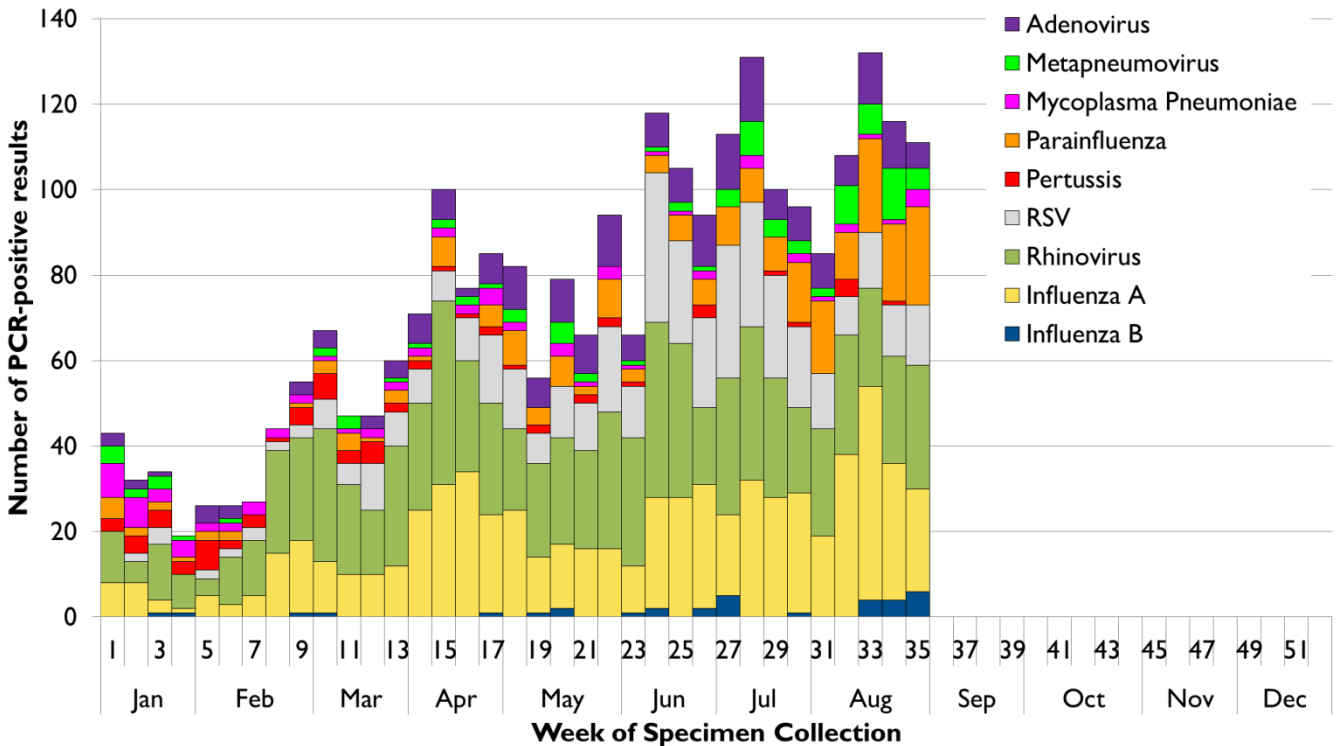


Figure 4: Respiratory pathogen detections, 1 January to Sunday 1 September 2019 (week 35).

Geographical distribution of activity

The majority of the 560 influenza cases during August 2019 were reported in the South (397 cases, 71 per cent). There were 132 cases (24 per cent) in the North and 31 cases (five per cent) in the North-West.

Between 1 January and 31 August 2019 there were 1 670 cases in the South, 640 cases in the North and 177 cases in the North-West. Four visitors to the state were diagnosed with influenza in Tasmania during this period.

Virology

A greater proportion of cases were due to Influenza B virus during August (17 per cent) compared to during July (7 per cent). The majority of cases during August 2019 were due to the Influenza A virus (467 cases, 83 per cent).

A small proportion of Influenza A viruses undergo further subtyping. Since 1 January 2019 the most commonly reported (84 per cent) subtype has been Influenza A(H3N2). The H3N2 strain is associated with greater morbidity and mortality in older adults.

Influenza Severity

FluCAN (Influenza cases admitted to a hospital)

The Influenza Complications Alert Network (FluCAN) reports on influenza-related hospitalisations and complications in sentinel hospitals Australia-wide during each influenza season. This system aims to provide an indication of severity of the influenza season and identify groups at higher risk of influenza-related hospital admission. The details of recent FluCAN activity are published in the Australian Influenza Surveillance Report (see *Interstate Activity*). The Royal Hobart Hospital participates in FluCAN.

From 1 April to 30 August 2019 there were 3 447 hospital admissions of laboratory-confirmed influenza reported by sentinel hospitals Australia-wide. Two hundred and eleven admissions (six per cent) were to an intensive care unit (ICU). During the week ending 30 August, FluCAN described activity across participating hospitals as 'declining influenza activity'.

Of the 3 447 hospital admissions reported Australia-wide, 215 patients with influenza were admissions to the Royal Hobart Hospital. Of these admissions, 10 were admitted to the ICU (five per cent).

Vaccine effectiveness

Influenza viruses are continually changing, making the targeting of an effective vaccine an annual challenge.

Nationally interim vaccine effectiveness estimates are determined using GP presentation and hospitalisation data (for example FluCAN, ASPREN and VicSPIN data).

Preliminary vaccine effectiveness (VE) estimates are based on incomplete data and may change once all data from the season are collated. Final estimates produced after the season returns to baseline levels are more reliable.

The estimated effectiveness of the vaccine may depend on several factors – the outcome being measured, the age group predominantly affected (vaccine effectiveness is generally lower in older people than in younger adults and children), and the match between vaccine and circulating influenza strains (generally protection against infection A/H1N1 is greater than against A/H3N2).

There is no Tasmania specific data on vaccine effectiveness available. A comment on vaccine effectiveness for Australia has been made in the Australian Influenza Surveillance Report (see "Interstate activity", below).

Interstate activity

The Australian Influenza Surveillance Report is compiled from several data sources including laboratory-confirmed notifications to National Notifiable Diseases Surveillance System, sentinel influenza-like illness reporting from general practitioners and emergency departments, workplace absenteeism and laboratory testing. The routine Australian Influenza Surveillance Report is published by the Australian Government Department of Health and is available at www.health.gov.au/flureport.

The key messages from the report describing national activity for the week ending 26 August 2019 were:

- **Activity** – Currently, overall influenza and influenza-like illness (ILI) activity is lower than average for this time of year compared to previous years, and current activity is consistent with activity in previous years following a peak. At the national level, notifications of laboratory-confirmed influenza continued to decrease in the past fortnight following an apparent peak in early July.
- **Severity** – Clinical severity for the season to date, as measured through the proportion of patients admitted directly to ICU, and deaths attributed to influenza, is considered low.
- **Impact** – Impact for the season to date, as measured through the number of sentinel hospital beds occupied by patients with influenza and the rate of FluTracking respondents absent from normal duties, is considered to be low to moderate.
- **Virology** – The majority of confirmed influenza cases reported nationally were influenza A in the year to date (79.5 per cent) and reporting fortnight (70.7 per cent). Of the influenza A cases that were subtyped, there has been a higher proportion of influenza A(H3N2) compared to influenza A(H1N1)pdm09. The proportion of cases attributed to influenza B has increased slightly in the past fortnight, following a steady decline during July.
- **Vaccine match and effectiveness** – Antigenic analysis of circulating influenza viruses in Australia in 2019 shows that the influenza A(H1N1)pdm09 and influenza B/Yamagata-lineage viruses are well matched to the 2019 influenza vaccine while some A(H3N2) and B/Victoria-lineage viruses are less well matched. Overall vaccine effectiveness appears good and as expected based on preliminary estimates from sentinel general practice (ASPREN) and sentinel hospital (FluCAN-PAEDS) surveillance systems, noting that effectiveness typically ranges from around 40-60 per cent each year.

Annual Influenza Vaccine

Composition of 2019 influenza vaccines

The annual influenza vaccine is reviewed late each year, aiming to produce vaccines for the following year that provide protection from influenza strains likely to be common during winter. Advice on the formulation of annual influenza vaccines is provided to the Therapeutic Goods Administration (TGA) by the Australian Influenza Vaccine Committee (AIVC): www.tga.gov.au/committee/australian-influenza-vaccine-committee-aivc

The AIVC is scheduled to meet during October 2019 to prepare recommendations for the composition of influenza vaccines in 2020.

Influenza vaccines in 2019 contain a new A strain (H3N2) and a new strain for the B Victoria lineage. Influenza virus strains included in the 2019 seasonal influenza vaccines are:

- A (H1N1): an A/Michigan/45/2015 (H1N1)pdm09 like virus
- A (H3N2): an A/Switzerland/8060/2017 (H3N2) like virus
- B: a B/Colorado/06/2017 like virus (not included in the trivalent vaccine)
- B: a B/Phuket/3073/2013 like virus

Further information on the composition of influenza vaccines is available at www.tga.gov.au/aivc-recommendations-composition-influenza-vaccine-australia

Is vaccination recommended?

Annual influenza vaccination is recommended for anyone over the age of six months who wishes to reduce the likelihood of influenza and its complications. Annual vaccination can help to reduce the spread of influenza and protect vulnerable members of the community.

Influenza vaccines in 2019 are free[#] in Tasmania for people at greater risk of contracting and developing severe complications from influenza. Free vaccine is available through General Practitioners for the following people:

- All children aged from six months to under five years (state funded)
- All Aboriginal and Torres Strait Islander people aged 6 months and over
- Adults aged 65 and over
- Pregnant women at any stage in their pregnancy
- Adults and children aged from 6 months with chronic medical conditions such as heart, lung, liver or kidney diseases, asthma, diabetes, cancer, impaired immunity and neuromuscular conditions

For more information see flu.tas.gov.au or beta.health.gov.au/topics/immunisation

[#] Please note there may be a consultation fee for the healthcare provider to administer the vaccine.

Further Information

For the latest information on influenza in Tasmania visit flu.tas.gov.au

Past fluTAS reports are available at dhhs.tas.gov.au/publichealth/communicable_diseases_prevention_unit